

REMARKSStatus of claims

Claims 1-31 remain in this application. Claim 14 is currently being amended.

**35 USC §112 Rejections**

Claims 14 – 27 are rejected under 35 USC §112, first paragraph, as failing to comply with the written description requirement in that the claims contain subject matter which is not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

The Office Action asserts that “a bend radius associated with an optical tap” as used in claims 16 and 23 fails to comply with the written description requirement. Applicant traverses this rejection. “Bend radius” as used with an “optical tap” finds support in the specification sufficient for teaching one skilled in the relevant arts that the inventors had possession of the claimed invention at the time the application was filed. In particular, the optical tap as shown in Figure 50 includes at least two optical fibers. And, elsewhere in the specification, numerous recitations of “bend radius” are provided. For example, page 2, lines 11-13 recites “Bend radius guides are usually mounted to the housing *to prevent sharp bends in the fiber* as it enters the enclosure” (emphasis added). Page 4, lines 15-17 recites, “maintain an *industry recommended minimum bend radius of 1.5 inches* on the output cable ports” (emphasis added). In conjunction with Figure 46, page 21, lines 3-5 recites “The *bend radius shown as dimension X, of the optical cables 1024 and 1026 does not exceed approximately 1.5 inches* thus enabling ease of closure of panel door” (emphasis added).

As shown by the above references, the specification makes reference to industry standard guidelines, recites a specific bend radius on the order of 1.5 inches, describes an exemplary means for bending cables along a desired radius using a bend radius guide, as well as providing a figure showing a bend radius with respect to two optical fibers (1024 and 1026) with an integrated optical coupler and connector 1020. Applicant respectfully requests that the 35 USC §112, first paragraph, rejection pertaining to “bend radius” be

withdrawn since “a bend radius” is discussed in sufficient detail so as to allow one skilled in the art to practice the claim limitation. Allowance of claims 16 and 23 is requested in view of the above arguments.

The Office Action asserts that the recitation of “a method of fabricating by fusing an optical coupler to a connector ferrule” as used in claim 27 fails to comply with the written description requirement. Applicant traverses this rejection. “Fusing” as used in the relevant art pertaining to joining fiber optic components is readily understood by those skilled in the art as meaning joining of two optical fibers using high, localized heat such that the glass surfaces of the fibers are fused together at a molecular level. Fusing is a common practice in the relevant art and is readily understood by those skilled therein. As a result claim 27 is not indefinite. Applicant respectfully requests that the 35 USC 112, first paragraph, rejection of claim 27 be withdrawn.

The Office Action also asserts that the recitation of “joining a fiber to the ferrule” and “curing and providing a shroud” is not described in the specification. These limitations are present in claim 27 of the instant application. In conjunction with Figure 53, page 24 at lines 9-15 recites

“The ferrule is joined to the fiber with a standard epoxy as represented in step 1114. Care is needed to ensure that the flange or the connector body is in contact with the coupler quartz substrate throughout the curing process until fully cured so that there is no gap between the connector ferrule body and the coupler substrate per step 1116. The connector body and coupler substrate are thus joined side by side.”

The above passage, provides adequate support for the referenced limitations of claim 27. Applicant respectfully requests that the 35 USC 112, first paragraph, rejection of claim 27 be withdrawn and that this claim be allowed.

Claims 14-26 stand rejected under 35 USC §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, the Office Action alleges that claims 14-26 omit essential structural and cooperative relationships and that such omission amounts to a gap between the necessary structural connections. Amended claim 14 recites, among other things, an “optical fiber communicatively coupled to the optical coupler”. Since the optical coupler is integral with the optical connector (claim 14), the optical fiber has a

structural relationship with the connector by way of the optical coupler. Applicant respectfully requests that the 35 USC §112, second paragraph, rejection of claim 14 be withdrawn and that this claim be allowed.

Claim 16 is rejected under 35 USC §112, second paragraph, because the recitation of a “bend radius associated with the tap” is not clear. As discussed in conjunction with the 35 USC §112, first paragraph, rejections, “bend radius” is recited numerous times in terms of a specific bend radius, e.g. 1.5 inches, and in terms of a desired outcome, namely so as to not damage the fibers. In view of these arguments, Applicant respectfully requests that the 35 USC §112 rejection of claim 16 be withdrawn that that this claim be allowed.

### **35 USC §102 Rejections**

Claims 1-13 stand rejected under 35 USC §102(e) as being anticipated by Schray (US Published Patent Application 2002/0150372). Applicant respectfully points out that Schray must teach each and every limitation of claims 1-13 to be a valid 102(e) reference. While the specification of Schray, to a large extent, may be included in the instant application, the subject matter of Schray is not found in “each and every element” of the rejected claims. In particular, Schray makes no mention of the word “coupler”, and thus does not teach integrated optical coupler/connectors. In particular, Applicant respectfully draws the Examiner’s attention to the following elements recited in independent claims 1, 6 and 10:

Independent claim 1 recites, among other things, “at least one optical coupler connector assembly coupled to at least one of the plurality of adapters”. Schray fails to disclose at least this limitation of claim 1. Therefore, Schray fails to support a valid 102(e) rejection of independent claim 1 or claims 2-5 depending therefrom.

Independent claim 6 recites, among other things, “an optical coupler integral with the optical connector”. Since Schray contains no mention of an optical coupler, the reference does not serve as a valid 102(e) reference against claim 6 or dependent claims 7-9.

Independent claim 10 recites, among other things, “at least one optical coupler-connector assembly coupled to at least one of the plurality of adapters”. Since Schray fails to mention an optical coupler-connector assembly, the reference does not serve as a

valid 102(e) reference against claim 10 or dependent claims 11-13. In view of the above remarks, Applicant respectfully requests that the 35 USC §102(e) rejections of claims 1-13 be withdrawn and that these claims be allowed.

Claims 14-26 and 28-31 stand rejected under 35 USC §102(b) as being anticipated by Asawa et al. (US Patent No. 5,712,937). The Office Action states that Figures 1-14 of Asawa show an optical tap having a connector with a coupler and two optical fibers 54,56 of two cables optically connected without the use of any refractive optical elements.

For Asawa to serve as a valid 35 USC §102(b) reference it must teach each and every claim element (MPEP §2131). Asawa discloses a planar waveguide multimodal launcher for use in detecting intruders in an optical fiber communication system (abstract, Fig. 6, Fig. 7). The planar waveguide multimodal launcher interfaces with six or more fibers and employs an optical coupler on a subset of the fibers for facilitating intrusion detection (Figs. 1 and 9). The device in Asawa employing a coupler is not “an optical coupler integral with an optical connector” as used in Applicant’s independent claims 14, 21 and 24. The device disclosed in Asawa is instead a planar waveguide as discussed in conjunction with at least Fig. 14 at col. 18, line 53 to col. 19, line 17. Furthermore, the planar waveguide and system of Asawa does not anticipate “an optical connector having a connector and splitter portion” as described in Applicant’s independent claim 28.

Asawa discusses a “coupler” or a “connector” in various portions of the specification (*coupler*: col. 16, lines 31-34, col. 8, lines 16-17, col. 13, lines 49-51, col. 14, lines 11-30, col. 16, lines 21-22, and col. 18, lines 23-24; *connector*: col. 12, lines 46-47, and col. 18, lines 33-50); however, Asawa fails to teach an “optical coupler integral with an optical connector” as recited in Applicant’s independent claims 14, 21, and 24. Furthermore, Asawa fails to teach “an optical connector for coupling optical data signals, comprising: a connector and splitter portion” as recited in independent claim 28.

Asawa further fails to teach “a bend radius that does not exceed approximately 1.5 inches” as recited in claim 17. Asawa does discuss a bend radius in conjunction with an optical fiber loop at col. 10, lines 22-26; however, the bend radius employed in Asawa is 1.25 centimeters. As such, the 1.25 *centimeter* bend radius of Asawa far exceeds the *approximately 1.5 inch* bend radius recited in Applicant’s claim 17 and therefore fails to teach this limitation of Applicant’s claim 17.

For at least the reasons argued hereinabove Applicant respectfully requests that the 35 USC §102(b) rejection of claims 14-26 and 28-31 be withdrawn. Reconsideration and allowance of claims 14-26 and 28-31 is further requested.

### 35 USC §103 Rejections

Claim 27 stands rejected under 35 USC §103(a) as being unpatentable over general knowledge. In particular the Office Action states, “A method of fabricating an optical device using the steps of fusing, curing and joining and providing a protective shroud (boot) is considered general knowledge in the art of optical connector and would have been obvious to one of ordinary skill in the art to use these steps to fabricate n [sic] optical device” (Office Action, ¶12).

It is well settled patent law that “All the limitations of a claim must be considered when weighting the differences between the claimed invention and the prior art in determining the obviousness of a process or method claim.” (MPEP §2116.01). In particular, “all words in a claim must be considered in judging the patentability of that claim against the prior art” (MPEP 2143.03 citing *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970)). Claim 27 recites:

A method of fabricating an optical tap device, comprising the steps of:

fusing an **optical coupler into a connector ferrule**;

joining the ferrule to a fiber to **result in a fiber coupler-connector assembly**;

curing the **fiber coupler-connector assembly**; and

providing a protective shroud over the assembly. (emphasis added)

When claim 27 is *read as a whole*, it is patentable over common knowledge.

Furthermore, MPEP §2144.03 states, among other things, “official notice unsupported by documentary evidence should only be taken by the examiner where the facts asserted to be well-known or to be common knowledge in the art are capable of instant and unquestionable demonstration as being well known.” (citing *In re Ahlert*, 424 F.2d 1088, 1091, 165 USPQ 418, 420 (CCPA 1970)). MPEP 2144.03 goes on to state, “It is never appropriate to rely solely on “common knowledge” in the art without evidentiary support in the record, as the principal evidence upon which a rejection is based.” (citing *In re. Zurko*, 258 F.3d at 1385, 59 USPQ2d at 1697).

Applicant traverses the rejection of claim 27 because none of the cited references heretofore used by the Examiner teach or suggest a "coupler-connector". When claim 27 is read as a whole, the use of words such as "fusing", "curing", "joining" and "shroud" in no way transform otherwise non-obvious subject matter, namely an integrated coupler-connector, into "common knowledge in the art" as asserted in the Office Action.

Applicant respectfully requests that the Examiner provide documentary evidence supporting the assertion of obviousness of claim 27 *when the claim is taken in its entirety*, or withdraw the rejection. Reconsideration and allowance of claim 27 is respectfully requested.

CONCLUSION

If there are any fees due in connection with the filing of this Amendment, including fees for additional claims and/or extensions of time, please charge the fees to our Deposit Account No. 50-1935.

In view of the amendments and remarks, it is believed that all claims are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone call would expedite the prosecution of this case, the Examiner is invited to call the undersigned at (508) 416-2487.

Respectfully submitted,

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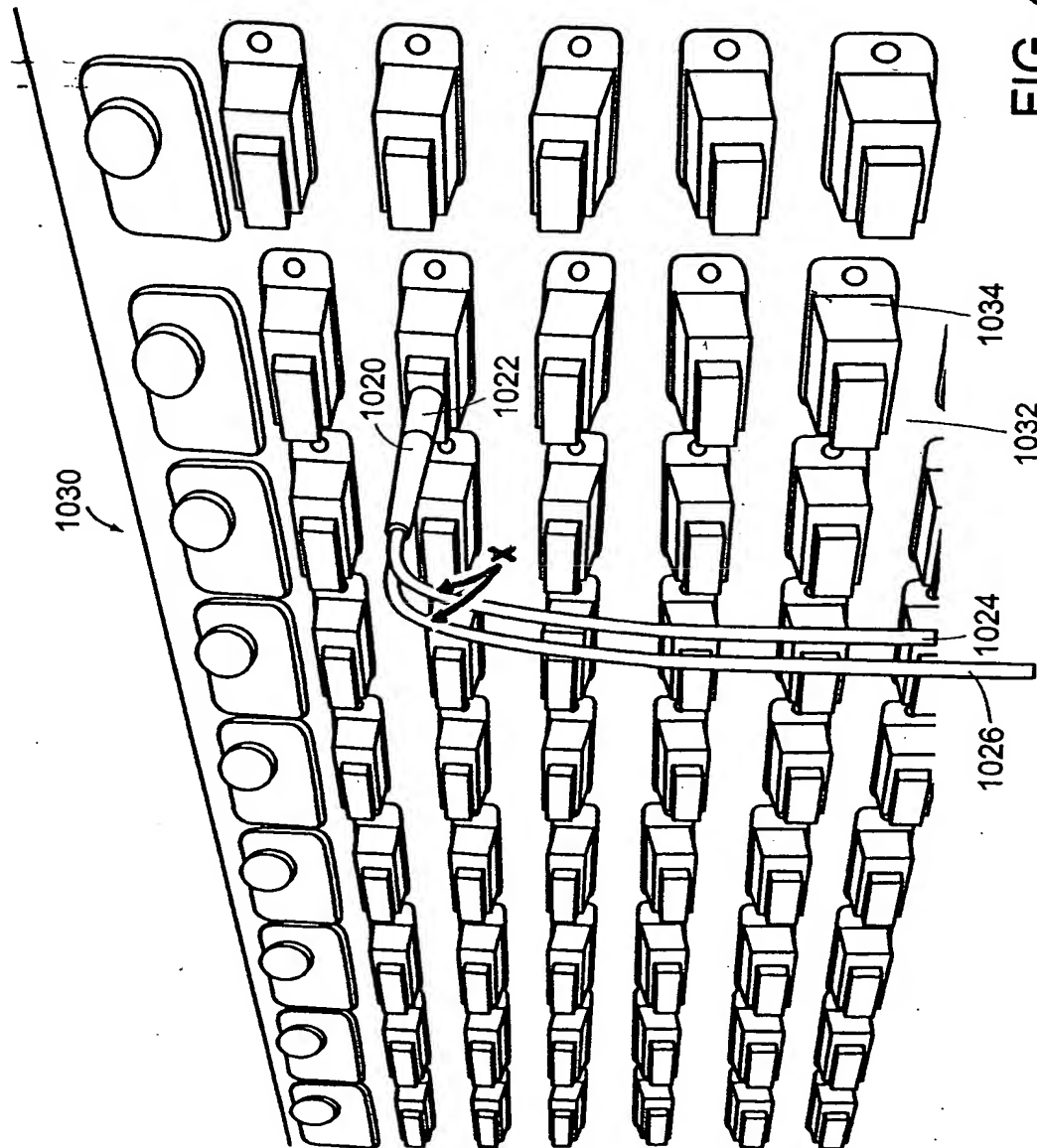


FIG. 46